Author Index of Volume 49

'Angelo, D. D., 40
Abbas, N. M., 1
Adachi, T., 13, 279
Adriaansen, A. P. M., 462
Ahern, M., 462
Alonso, F., 482
An, I., 381
Ananthapadmanabhan, P. V., 62
Armann, A., 514
Arnell, R. D., 298
Aromaa, J., 353, 489
Ashary, A. A., 78

Bancke, G. A., 24
Baouchi, A. W., 253
Beißwenger, S., 330
Belkind, A., 155
Bellido, V., 548
Berg, S., 336
Bernard, C., 208
Bianchi, P., 40
Böhmer, M., 263
Boman, M., 221
Bonelli, M., 150
Boquet, L., 57
Bordeaux, F., 50
Bouslykhane, K., 457
Bradbury, S. R., 443
Brand, J., 370
Breidenbach, R., 263
Brooks, J. S., 244
Broszeit, E., 468, 489
Brown, I. G., 500
Brown, R., 500
Brunner, J., 188
Buckley, P., 87, 500
Buil, B., 161
Bunshah, R. F., 304
Burchell, T. D., 24
Burgmer, W., 244, 370

Calliari, L., 150
Cameron, D. C., 416
Carlsson, J.-O., 221
Cavaleiro, A., 311
Cawley, J., 244
Cerri, W., 40
Chandler, H. W., 504, 519
Chang, C. L., 366
Chang, F. C., 87
Chen, J., 116
Choi, D. K., 103, 110
Church, N., 103, 110
Collins, R. W., 381
Cong, Y., 381
Cota-Araiza, L., 422
Craig, G., 116

Delsart, D., 57
Descôtes, L., 239
Deshpandey, C. V., 304
Dimigen, H., 543
Ding, P., 203
Doerr, H. J., 304
Dow, D., 155
Drobot, A., 387
Dvorak, M., 46

Ebberink, J., 258
Eguchi, N., 127, 331
Ehrlich, A. C., 143
Elena, M., 150
Elsing, R., 132
Erck, R. A., 83, 435
Erdemir, A., 435
Eroglu, S., 275

Fagoaga, I., 482
Farias, M., 422
Farley, E., 116
Felts, J., 155
Fenske, G. R., 83
Fessmann, J., 168, 258
Feuerstein, A., 330
Fiorini, M., 174
Fischer, T. E., 537
Fritsch, R., 316
Fromm, E., 127, 336
Fujita, N., 97

Gallois, B., 275, 537
Garcia, A., 548
Gerristead, W., 155
Ghabashy, M. A., 150
Gillibrand, D., 443
Giunta, G., 174
Godbole, V. P., 439
Graham, M. E., 293
Grajewski, V., 127, 336
Grilhé, J., 457
Grill, A., 530
Grimsditch, M., 143
Groot, P., 46
Guidoboni, M. P., 366
Guzman, L. A., 150

Hannula, S.-P., 353, 489
Harding, G. L., 199
Harford, M. Z., 67, 139
Hashimoto, M., 342
Hashmi, M. S. J., 416
Hauzer, F. J. M., 161
Hayward, I. P., 554
Heidarpour, E., 394
Herman, H., 24
Hiraki, A., 374
Hochman, R. F., 83
Hofmann, D., 330
Holmberg, K., 468
Hopkins, M., 168
Hsieh, J. H., 83
Hues, S. M., 143
Huie, R., 87
Hultman, L., 181
Hyman, E., 387

Ichimura, H., 279
Igarashi, T., 97
Ignat, M., 514
Ishii, Y., 279
Ives, M., 244

Jacobsen, R. L., 143

Kadlec, S., 181
Kammermeier, D., 316
Kampschulte, G., 168, 258
Kane, M., 87
Karim, M. Z., 416
Kattamis, T. Z., 87
Kawai, H., 97
Kawarada, H., 374
Kelly, T. C., 462
Kennedy, A. D., 462
Kim, C., 67, 139, 143
Kim, D. S., 537
Kim, S. W., 336
Kinder, T. J., 239
Klages, C.-P., 543
Knight, J. C., 519
Knotek, O., 263, 325, 370
Kobayashi, K., 13, 279
Koekoek, R., 462
König, W., 316
Krämer, G., 325
Krokoszinski, H.-J., 451
Kübel, E., 268
Kubo, H., 194
Kubo, Y., 342
Kumakiri, T., 496
Kumar, S., 143

Laird, R., 155
Lakshminarayan, G. R., 87
Lane, B., 387
Lau, K. H., 103, 110
le Mogne, Th., 427
Lee, R., 83
Levy, M., 87
Leyland, A., 468, 489
Löffler, F., 263, 325, 370
Lottati, I., 387
Louw, C. W., 348
Lowder, L., 500
Lubitz, P., 67, 139

Ma, J. S., 374
Madar, R., 208
Mahiout, A., 353
Mann, D., 168
Manory, R. R., 510
Marchesano, G., 174
Marek, M., 83

Martin, J. M., 427
Martin, P. J., 239
Martinella, R., 40
Mathur, M. S., 8
Matthes, B., 468, 489
Matthews, A., 468, 489
McDonnell, L., 462
McKee, J. S. C., 8
McKernan, M. A., 411
McKubre, M. C. H., 103, 110
McMordie, B. G., 18
Mendez, J. M., 422
Mernagh, V. A., 462
Messier, R., 381
Meyerson, B., 530
Miotello, A., 150
Miyake, S., 406
Moberg, L., 514
Moine, P., 457
Monaghan, D., 298
Mor, C. P., 40
Moreau, C., 50
Muhl, S., 422
Munemasa, J., 496
Münz, W.-D., 161
Murakawa, M., 359, 406
Muraleedharan, K. V., 62
Murphy, M. J., 416
Musil, J., 181

Namba, Y., 394
Nath, V. C., 510
Netterfield, R. P., 239
Nguyen, H. V., 381
Ni, Z., 203
Nieminen, I., 468
Nowak, W. B., 71

Ogale, S. B., 439
Ohtsu, H., 279
Okada, S., 374
Olbrich, W., 258
Oñate, J. I., 548
Orban, Z., 155
Oregui, P., 482

Ossi, P. M., 150

Page, T. F., 504, 519
Pan, F., 203
Patel, V., 530
Perry, A. J., 181, 188, 253
Peters, D., 103
Petitbon, A., 57
Placzankis, B., 500
Posadowski, W., 290
Post, R., 392
Prakash, S., 304

Qadri, S. B., 67, 139, 143

Ramaekers, P. P. J., 462
Ramsey, P. M., 504
Redwing, J. M., 215
Rhys-Jones, T. N., 1
Robles, J., 435
Rohde, S. L., 121
Romanoski, G. R., 24
Ronkainen, H., 353, 468, 489
Rudnik, P. J., 293

Saint Jacques, R. G., 50
Sanjurjo, A., 103, 110, 116, 228
Sarwar, M., 443
Sawin, H., 387
Schaffer, J. P., 188
Schulze, D., 161
Sibieude, F., 514
Singer, I. L., 474
Skelton, E. F., 67
Song, H. K., 103, 110
Sood, D. K., 510
Soto, G., 422
Sproul, W. D., 121, 188, 284, 290
Sreekumar, K. P., 62
Steffens, H.-D., 46
Stoßel, C., 263
Strydom, I. LeR, 348
Su, Y. Y., 83
Sue, J. A., 31
Suh, T.-G., 304

Suhr, H., 233
Suzuki, J., 374
Swain, M. V., 199
Swider, S. E., 228

Takeuchi, S., 359
Tamura, M., 194
Taniuchi, T., 13
Tawancy, H. M., 1
Tong, G. T., 103, 110, 228
Tritt, T. M., 143
Troue, H. H., 31
Tsang, K., 387
Tsuji, O., 399
Tucker, Jr., R. C., 78
Twigg, M., 139

Uchida, H. H., 127
Ukegawa, H., 97
Umarjee, D. M., 304

Valvoda, V., 181
van den Heever, K., 348
van Staden, M. J., 348
Varacalle, Jr., D. J., 24
Vedam, K., 381
Venkatramani, N., 62
Vieira, M. T., 311
Villain, J. P., 457
Vittori, V., 174
Viviente, J. L., 548

Wagh, B. G., 439
Watanabe, S., 406
Wei, J., 374
Window, B., 199
Wong, M. S., 121
Wood, B. J., 103, 110, 228
Wood, P., 399
Woodruff, D. W., 215
Wydeven, T., 399

Yoshioka, T., 97
Yuasa, M., 374

Zhou, S., 203

Subject Index of Volume 49

Abrasion
  abrasion resistance of various thin film coatings on thick film resistor materials, 451
Adherence
  Adherent metallization of plastic composites, 168
Adhesion
  adhesion improvements in silicon carbide deposited by plasma-enhanced chemical vapour deposition, 462
  mechanical stability and adhesion of ceramic coatings deposited on steels, 513
Aluminides
  oxidation resistance of slurry aluminides on high temperature titanium alloys, 18
  plasma-sprayed composite coatings for high temperature applications, 62
  role of platinum in aluminide coatings, 1
Aluminium
  adhesion and corrosion behaviour of Al–Zn and TiN/Ti/TiN coatings on a DU–0.75wt.%Ti alloy, 87
  structural and magnetic properties of Al/Fe multilayers deposited by ion beam sputtering, 139
  structural, elastic and transport properties of Ag/Al multilayer thin films prepareed by ion-beam sputtering, 143
  ultramicrohardness and microstructure of Ti–6 wt.%Al–4 wt.%V alloy nitrided by ion implantation, 510
Arc deposition
  arc-deposited Ti–Zr–N coatings on cemented carbides for use in interrupted cutting, 325
Arc evaporation
  a new concept for physical vapor deposition coating combining the methods of arc evaporation and unbalanced-magnetron sputtering, 161
  a study of the macroparticle distribution in cathodic-arc-evaporated TiN films, 253
  deposition of TiN, TiC, and TiO_2 films by filtered arc evaporation, 239
  fundamental studies of the steered arc technique, 244
  improved control of TiN coating properties using cathodic arc evaporation with a pulsed bias, 258
Arc vapor deposition
  adherent metallization of plastic composites, 168
Auger electron spectroscopy
  investigation of partial reactions during magnetron sputtering of TiN coatings by *in situ* Auger electron spectroscopy analysis and plasma diagnostics, 127

Boric acid
  relationship of hertzian contact pressure to friction behavior of self-lubricating boric acid films, 435
Boron
  deposition of hydrogenated B–C thin films and their mechanical and chemical characterization, 548
  magnetron sputter deposition of boron and boron carbide, 411
  plasma deposition of cubic boron nitride films from non-toxic material at low temperatures, 416
  preparation of cubic boron nitride films by plasma-enhanced chemical vapour deposition of BF_3, N_2 and H_2 gas mixtures, 422
  triobological properties of cubic, amorphous and hexagonal boron nitride films, 406

Carbide-reinforced coatings
  laser deposition of carbide-reinforced coatings, 40
Carbides
  adhesion improvements in silicon carbide deposited by plasma-enhanced chemical vapour deposition, 462
  arc-deposited Ti–Zr–N coatings on cemented carbides for use in interrupted cutting, 325
  investigation of interfaces of chemically vapour deposited SiC, SiC–Ti (N, C) multilayer coatings on WC–Co based cermets, 174
  ion implantation effects in pulsed laser deposited tungsten carbide films, 439
  magnetron sputter deposition of boron and boron carbide, 411
Carbon
  amorphous carbon physically vapour deposited coatings, 370
  deposition of hydrogenated B–C thin films and their mechanical and chemical characterization, 548
  deposition of TiN, TiC, and TiO_2 films by filtered arc evaporation, 239
  effect of temperature on the deposition rate and properties of hydrogenated amorphous carbon films, 399
  erosion protection of carbon-epoxy composites by plasma-sprayed coatings, 482
  morphology and thickness distribution of sputtered W–C–Co films deposited on differently shaped substrates, 311
  thermal instability of the microstructure and surface mechanical properties of hydrogenated amorphous carbon films, 519
Ceramic coating
  ceramic coating for valve seats and stems by plasma chemical vapor deposition, 97
Ceramic coatings
  evaluation of some titanium-based ceramic coatings on high speed steel cutting tools, 468
  mechanical stability and adhesion of ceramic coatings deposited on steels, 514
Ceramics
  interpretation of friction and wear of ceramics in terms of surface analysis, 427
Cermets
  corrosion characteristics of several thermal spray cermet-coating/allow systems, 78
  investigation of interfaces of chemically vapour deposited SiC, SiC–Ti(N, C) multilayer coatings on WC–Co based cermets, 174
Chemical vapor deposition
  applications and trends in plasma-enhanced organometallic chemical vapour deposition, 233
  chemical vapor deposition of Si_3N_4 onto metal substrates, 13
  chemical vapor deposition of fine-grained equiaxed tungsten films, 215
  coating particles by chemical vapor deposition in fluidized bed reactors, 228
  design and chemical vapor deposition of graded TiN/TiC coatings, 275
  investigation of interfaces of chemically vapour deposited SiC, SiC–Ti(N, C) multilayer coatings on WC–Co based cermets, 174
  laser-assisted chemical vapor deposition of hard and refractory binary compounds, 221

new developments in chemically vapour-deposited coatings from an industrial point of view, 268
real time monitoring of filament-assisted chemically vapor deposited diamond by spectroscopic ellipsometry, 381
silicon coatings on copper by chemical vapor deposition in fluidized bed reactors, 103
thermodynamic analysis and deposition of refractory materials, 208
titanium-based coatings on copper by chemical vapor deposition in fluidized bed reactors, 110

Chromium
adherent metallization of plastic composites, 168

Co-sputtering
reactive co-sputtering of oxides and nitrides using a C–Magt^{m} rotatable cylindrical cathode, 155

Cobalt
morphology and thickness distribution of sputtered W–C–Co films deposited on differently shaped substrates, 311

Contact response
modelling the contact response of coated systems, 504

Copper
adherent metallization of plastic composites, 168
deposition of thick films of oxygen-free high conductivity copper by unbalanced d.c. magnetron sputtering: self-biased and biased conditions, 298
preparation of ultrafine Cu and SnO_2 particles by d.c. magnetron sputtering, 304
silicon coatings on copper by chemical vapor deposition in fluidized bed reactors, 103
titanium-based coatings on copper by chemical vapor deposition in fluidized bed reactors, 111

Corrosion
adhesion and corrosion behavior of Al–Zn and TiN/Ti/TiN coatings on a DU–0.75wt.%Ti alloy, 87
corrosion characteristics of several thermal spray cermet-coating/alloy systems, 78
corrosion performance of some titanium-based hard coatings, 489
effect of the surface roughness of substrates on the corrosion properties of films coated by physical vapour deposition, 496
identification of factors affecting the aqueous corrosion properties of (Ti, Al)N-coated steel, 353
niobium coatings on 316L stainless steel for improving corrosion resistance, 83
thin metallic films for corrosion control, 71

Deposition rate
effect of temperature on the deposition rate and properties of hydrogenated amorphous carbon films, 399

Diamond
friction and wear properties of diamonds and diamond coatings, 554

Diamond films
effects of surface treatment on the diamond deposition and performance of ceramic cutting tools, 366
fabrication of diamond films under high density helium plasma formed by electron cyclotron resonance, 374
mechanical applications of thin and thick diamond films, 359
plasma enhanced chemical vapor deposition modeling, 387
Raman observation of diamond phase carbon films prepared by ionized deposition, 394
real time monitoring of filament-assisted chemically vapor deposited diamond by spectroscopic ellipsometry, 381

Diamond-like carbon
the effects of oxygen and humidity on friction and wear of diamond-like carbon films, 537
tribological behavior of diamond-like carbon: effects of preparation conditions and annealing, 530

Diamond-like coatings
microstructure and wear behavior of metal-containing diamond-like coatings, 543

Dip coating
titanium-based coatings on steel: dip coating and plasma spray, 116

Elasticity
structural, elastic and transport properties of Ag/Al multilayer thin films prepared by ion-beam sputtering, 143

Electron-beam deposition
electron-beam deposition of zirconia films stabilized in high temperature phases by different oxides, 67

Erosion
erosion protection of carbon-epoxy composites by plasma-sprayed coatings, 482
high temperature erosion behavior of titanium nitride and zirconium nitride coatings, 31

Fluidized bed reactors
coating particles by chemical vapor deposition in fluidized bed reactors, 228
silicon coatings on copper by chemical vapor deposition in fluidized bed reactors, 103
titanium-based coatings on copper by chemical vapor deposition in fluidized bed reactors, 110

Fluorine
preparation of cubic boron nitride films by plasma-enhanced chemical vapour deposition of BF_3, N_2 and H_2 gas mixtures, 422

Friction
forces, surface finish and friction characteristics in surface engineered single- and multiple-point cutting edges, 443
friction and wear properties of diamonds and diamond coatings, 554
interpretation of friction and wear of ceramics in terms of surface analysis, 427
relationship of hertzian contact pressure to friction behavior of self-lubricating boric acid films, 435
the effects of oxygen and humidity on friction and wear of diamond-like carbon films, 537

Hard coatings
arc-deposited Ti–Zr–N coatings on cemented carbides for use in interrupted cutting, 325
ceramic cathodes for arc-physical vapour deposition: development and application, 263
corrosion performance of some titanium-based hard coatings, 489
deposition of and annealing effect on Ti(C, N) coatings, 194
design and chemical vapor deposition of graded TiN/TiC coatings, 275
identification of factors affecting the aqueous corrosion properties of (Ti, Al)N-coated steel, 353
mechanical properties and wear resistance of ion-beam-assisted sputter-deposited NiTi(N) coatings, 457
new developments in chemically vapour-deposited coatings from an industrial point of view, 268

novel low temperature hard coatings for large parts, 330
physically vapor deposited coatings on tools: performance and wear phenomena, 316
selective steam oxidation of titanium and aluminium in TiN and (Ti, Al)N physically vapour-deposited coatings on dental surgical tools, 348
Helium
fabrication of diamond films under high density helium plasma formed by electron cyclotron resonance, 374
Hydrogen
effect of temperature on the deposition rate and properties of hydrogenated amorphous carbon films, 399
hydrogen ion interaction behaviour of plasma-sprayed TiC coatings, 8
noble metal implantation to reduce hydrogen embrittlement in steels, 500
preparation of cubic boron nitride films by plasma-enhanced chemical vapour deposition of BF_3, N_2 and H_2 gas mixtures, 422
Hydrogenated
thermal instability of the microstructure and surface mechanical properties of hydrogenated amorphous carbon films, 519
Hydrogenation
deposition of hydrogenated B–C thin films and their mechanical and chemical characterization, 548

Ion beams
mechanical properties and wear resistance of ion-beam-assisted sputter-deposited NiTi(N) coatings, 457
structural and magnetic properties of Al/Fe multilayers deposited by ion beam sputtering, 139
structural, elastic and transport properties of Ag/Al multilayer thin films prepared by ion-beam sputtering, 143
Ion bombardment
hydrogen ion interaction behaviour of plasma-sprayed TiC coatings, 8
Ion deposition
Raman observation of diamond phase carbon films prepared by ionized deposition, 394
Ion implantation
ion implantation effects in pulsed laser deposited tungsten carbide films, 439
noble metal implantation to reduce hydrogen embrittlement in steels, 500
ultramicrohardness and microstructure of Ti–6wt.%Al–4wt.%V alloy nitrided by ion implantation, 510
Iron
structural and magnetic properties of Al/Fe multilayers deposited by ion beam sputtering, 139

Laser methods
ion implantation effects in pulsed laser deposited tungsten carbide films, 439
laser deposition of carbide-reinforced coatings, 40
laser surface sealing and strengthening of zirconia coatings, 57
laser-assisted chemical vapor deposition of hard and refractory binary compounds, 221

Magnetic fields
modeling magnetic fields of magnetron sputtering systems, 121
Magnetic properties
structural and magnetic properties of Al/Fe multilayers deposited by ion beam sputtering, 139
Magnetron
effect of contamination reactions on the composition and mechanical properties of magnetron sputtered TiN coatings, 336
magnetron sputter deposition of boron and boron carbide, 411
novel low temperature hard coatings for large parts, 330
preparation of ultrafine Cu and SnO_2 particles by d.c. magnetron sputtering, 304
Magnetron sputtering
modeling magnetic fields of magnetron sputtering systems, 121
Magnetrons
a new concept for physical vapor deposition coating combining the methods of arc evaporation and unbalanced-magnetron sputtering, 161
deposition of thick films of oxygen-free high conductivity copper by unbalanced d.c. magnetron sputtering: self-biased and biased conditions, 298
investigation of partial reactions during magnetron sputtering of TiN coatings by *in situ* Auger electron spectroscopy analysis and plasma diagnostics, 127
low pressure magnetron sputtering using ionized, sputtered species, 290
multi-cathode unbalanced magnetron sputtering systems, 284
Mechanical properties
effect of contamination reactions on the composition and mechanical properties of magnetron sputtered TiN coatings, 336
mechanical properties and wear resistance of ion-beam-assisted sputter-deposited NiTi(N) coatings, 457
mechanical properties of TiN films deposited by changed-pressure r.f. sputtering, 342
Metal substrates
chemical vapor deposition of Si_3N_4 onto metal substrates, 13
Microstructure
microstructure and wear behavior of metal-containing diamond-like coatings, 543
thermal instability of the microstructure and surface mechanical properties of hydrogenated amorphous carbon films, 519
ultramicrohardness and microstructure of Ti–6wt.%Al–4wt.%V alloy nitrided by ion implantation, 510
Molybdenum
high rate reactive sputtering of MoN_x coatings, 293

Niobium
niobium coatings on 316L stainless steel for improving corrosion resistance, 83
Nitrides
a study of the picostructure of sputtered ZrN films, 188
fundamental studies of the steered arc technique, 244
high rate reactive sputtering of MoN_x coatings, 293
high temperature erosion behavior of titanium nitride and zirconium nitride coatings, 31
plasma deposition of cubic boron nitride films from non-toxic material at low temperatures, 416
preparation of cubic boron nitride films by plasma-enhanced chemical vapour deposition of BF_3, N_2 and H_2 gas mixtures, 422
reactive co-sputtering of oxides and nitrides using a C–Magt^m rotatable cylindrical cathode, 155
triobological properties of cubic, amorphous and hexagonal boron nitride films, 406
Nitrogen
a study of the macroparticle distribution in cathodic-arc-evaporated TiN films, 253

a study of TiN coatings on a low alloy high speed steel, 203
chemical vapor deposition of Si_3N_4 onto metal substrates, 13
effect of contamination reactions on the composition and mechanical properties of magnetron sputtered TiN coatings, 336
forces, surface finish and friction characteristics in surface engineered single- and multiple-point cutting edges, 443
improved control of TiN coating properties using cathodic arc evaporation with a pulsed bias, 258
investigation of partial reactions during magnetron sputtering of TiN coatings by *in situ* Auger electron spectroscopy analysis and plasma diagnostics, 127
mechanical properties of TiN films deposited by changed-pressure r.f. sputtering, 342
preparation of cubic boron nitride films by plasma-enhanced chemical vapour deposition of BF_3, N_2 and H_2 gas mixtures, 422
TiN film formation by plasma chemical vapor deposition and its plasma diagnostics, 279
titanium nitride coatings obtained using new apparatus for ion beam assisted deposition, 150

Oxidation
oxidation resistance of slurry aluminides on high temperature titanium alloys, 18
Oxides
electron-beam deposition of zirconia films stabilized in high temperature phases by different oxides, 67
reactive co-sputtering of oxides and nitrides using a C–Magt^m rotatable cylindrical cathode, 155
Oxygen
deposition of TiN, TiC, and TiO_2 films by filtered arc evaporation, 239
preparation of ultrafine Cu and SnO_2 particles by d.c. magnetron sputtering, 304
the effects of oxygen and humidity on friction and wear of diamond-like carbon films, 537

Physical vapor deposition
a new concept for physical vapor deposition coating combining the methods of arc evaporation and unbalanced-magnetron sputtering, 161
amorphous carbon physically vapour deposited coatings, 370
ceramic cathodes for arc-physical vapour deposition: development and application, 263
effect of the surface roughness of substrates on the corrosion properties of films coated by physical vapour deposition, 496
fundamental studies of the steered arc technique, 244
on picostructural models of physically vapor-deposited films of titanium nitride, 181
physically vapor deposited coatings on tools: performance and wear phenomena, 316
selective steam oxidation of titanium and aluminium in TiN and (Ti, Al)N physically vapour-deposited coatings on dental surgical tools, 348
the practical use and application of Monte-Carlo studies in physical vapour deposition technology, 132
Plasma deposition
ceramic coating for valve seats and stems by plasma chemical vapor deposition, 97
erosion protection of carbon-epoxy composites by plasma-sprayed coatings, 482
hydrogen ion interaction behaviour of plasma-sprayed TiC coatings, 8
plasma-sprayed composite coatings for high temperature applications, 62
study of surface preparation for enhanced resistance to thermal shocks of plasma-sprayed TiC coatings, 50
thermal behaviour of thick TiC layers made by plasma spraying, 46
titanium-based coatings on steel: dip coating and plasma spray, 116
Plasma method
fabrication of diamond films under high density helium plasma formed by electron cyclotron resonance, 374
Plasma methods
adhesion improvements in silicon carbide deposited by plasma-enhanced chemical vapour deposition, 462
applications and trends in plasma-enhanced organometallic chemical vapour deposition, 233
deposition of hydrogenated B–C thin films and their mechanical and chemical characterization, 548
investigation of partial reactions during magnetron sputtering of TiN coatings by *in situ* Auger electron spectroscopy analysis and plasma diagnostics, 127
plasma deposition of cubic boron nitride films from non-toxic material at low temperatures, 416
plasma enhanced chemical vapor deposition modeling, 387
preparation of cubic boron nitride films by plasma-enhanced chemical vapour deposition of BF_3, N_2 and H_2 gas mixtures, 422
Raman observation of diamond phase carbon films prepared by ionized deposition, 394
TiN film formation by plasma chemical vapor deposition and its plasma diagnostics, 279
vacuum-plasma-sprayed silicon coatings, 24
Platinum
role of platinum in aluminide coatings, 1

Refractory materials
laser-assisted chemical vapor deposition of hard and refractory binary compounds, 221
thermal relief of stresses in sputtered refractory metals and compounds, 199
thermodynamic analysis and deposition of refractory materials, 208

Silicon
adhesion improvements in silicon carbide deposited by plasma-enhanced chemical vapour deposition, 462
chemical vapor deposition of Si_3N_4 onto metal substrates, 13
investigation of interfaces of chemically vapour deposited SiC, SiC–Ti(N, C) multilayer coatings on WC–Co based cermets, 174
silicon coatings on copper by chemical vapor deposition in fluidized bed reactors, 103
vacuum-plasma-sprayed silicon coatings, 24
Silver
structural, elastic and transport properties of Ag/Al multilayer thin films prepared by ion-beam sputtering, 143
Sputtering
a study of the picostructure of sputtered ZrN films, 188
deposition of thick films of oxygen-free high conductivity copper by unbalanced d.c. magnetron sputtering: self-biased and biased conditions, 298
effect of contamination reactions on the composition and mechanical properties of magnetron sputtered TiN coatings, 336

high rate reactive sputtering of MoN_x coatings, 293
low pressure magnetron sputtering using ionized, sputtered species, 290
magnetron sputter deposition of boron and boron carbide, 411
mechanical properties and wear resistance of ion-beam-assisted sputter-deposited NiTi(N) coatings, 457
mechanical properties of TiN films deposited by changed-pressure r.f. sputtering, 342
morphology and thickness distribution of sputtered W–C–Co films deposited on differently shaped substrates, 311
multi-cathode unbalanced magnetron sputtering systems, 284
novel low temperature hard coatings for large parts, 330
preparation of ultrafine Cu and SnO_2 particles by d.c. magnetron sputtering, 304
thermal relief of stresses in sputtered refractory metals and compounds, 199

Stainless steel
niobium coatings on 316L stainless steel for improving corrosion resistance, 83

Steel
a study of TiN coatings on a low alloy high speed steel, 203
identification of factors affecting the aqueous corrosion properties of (Ti, Al)N-coated steel, 353
mechanical stability and adhesion of ceramic coatings deposited on steels, 514
noble metal implantation to reduce hydrogen embrittlement in steels, 500
titanium-based coatings on steel: dip coating and plasma spray, 116

Stress
thermal relief of stresses in sputtered refractory metals and compounds, 199

Structure
a study of the picostructure of sputtered ZrN films, 188
on picostructural models of physically vapor-deposited films of titanium nitride, 181
structural and magnetic properties of Al/Fe multilayers deposited by ion beam sputtering, 139
structural, elastic and transport properties of Ag/Al multilayer thin films prepared by ion-beam sputtering, 143

Surface analysis
interpretation of friction and wear of ceramics in terms of surface analysis, 427

Surface mechanical properties
thermal instability of the microstructure and surface mechanical properties of hydrogenated amorphous carbon films, 519

Surface preparation
study of surface preparation for enhanced resistance to thermal shocks of plasma-sprayed TiC coatings, 50

Surface roughness
effect of the surface roughness of substrates on the corrosion properties of films coated by physical vapour deposition, 496

Surface treatment
a thermochemical model for analyzing low wear-rate materials, 474
forces, surface finish and friction characteristics in surface engineered single- and multiple-point cutting edges, 443

Thermal spray coatings
corrosion characteristics of several thermal spray cermet-coating/alloy systems, 78

Thermodynamics
thermodynamic analysis and deposition of refractory materials, 208

Thin film coatings
abrasion resistance of various thin film coatings on thick film resistor materials, 451

Thin metallic films
thin metallic films for corrosion control, 71

TiC coatings
study of surface preparation for enhanced resistance to thermal shocks of plasma-sprayed TiC coatings, 50
thermal behaviour of thick TiC layers made by plasma spraying, 46

Tin
preparation of ultrafine Cu and SnO_2 particles by d.c. magnetron sputtering, 304

TiN/Ti/TiN coatings
adhesion and corrosion behavior of Al–Zn and TiN/Ti/TiN coatings on a Du–0.75wt.%Ti alloy, 87

Titanium
a study of the macroparticle distribution in cathodic-arc-evaporated TiN films, 253
a study of TiN coatings on a low alloy high speed steel, 203
corrosion performance of some titanium-based hard coatings, 489
deposition of TiN, TiC, and TiO_2 films by filtered arc evaporation, 239
effect of contamination reactions on the composition and mechanical properties of magnetron sputtered TiN coatings, 336
evaluation of some titanium-based ceramic coatings on high speed steel cutting tools, 468
forces, surface finish and friction characteristics in surface engineered single- and multiple-point cutting edges, 443
fundamental studies of the steered arc technique, 244
high temperature erosion behavior of titanium nitride and zirconium nitride coatings, 31
improved control of TiN coating properties using cathodic arc evaporation with a pulsed bias, 258
investigation of interfaces of chemically vapour deposited SiC, SiC–Ti(N, C) multilayer coatings on WC–Co based cermets, 174
investigation of partial reactions during magnetron sputtering of TiN coatings by *in situ* Auger electron spectroscopy analysis and plasma diagnostics, 127
mechanical properties of TiN films deposited by changed-pressure r.f. sputtering, 342
on picostructural models of physically vapor-deposited films of titanium nitride, 181
oxidation resistance of slurry aluminides on high temperature titanium alloys, 18
TiN film formation by plasma chemical vapor deposition and its plasma diagnostics, 279
titanium-based coatings on copper by chemical vapor deposition in fluidized bed reactors, 110
titanium-based coatings on steel: dip coating and plasma spray, 116
ultramicrohardness and microstructure of Ti–6wt.%Al–4 wt.%V alloy nitrided by ion implantation, 510

Titanium carbon
hydrogen ion interaction behaviour of plasma-sprayed TiC coatings, 8

Titanium nitride
titanium nitride coatings obtained using new apparatus for ion beam assisted deposition, 150

Tribology
tribological behavior of diamond-like carbon: effects of preparation conditions and annealing, 530
tribological properties of cubic, amorphous and hexagonal boron nitride films, 406

Tungsten
chemical vapor deposition of fine-grained equiaxed tungsten films, 215
ion implantation effects in pulsed laser deposited tungsten carbide films, 439
morphology and thickness distribution of sputtered W–C–Co films deposited on differently shaped substrates, 311

Vanadium
Ultramicrohardness and microstructure of Ti–6wt.%Al–4wt.%V alloy nitrided by ion implantation, 510

Wear
a thermochemical model for analyzing low wear-rate materials, 474
friction and wear properties of diamonds and diamond coatings, 554
interpretation of fricton and wear of ceramics in terms of surface analysis, 427
mechanical properties and wear resistance of ion-beam-assisted sputter-deposited NiTi(N) coatings, 457
microstructure and wear behavior of metal-containing diamond-like coatings, 543
physically vapor deposited coatings on tools: performance and wear phenomena, 316
the effects of oxygen and humidity on friction and wear of diamond-like carbon films, 537

Zinc
adhesion and corrosion behavior of Al–Zn and TiN/Ti/TiN coatings on a DU–0.75wt.%Ti alloy, 87

Zirconia
electron-beam deposition of zirconia films stabilized in high temperature phases by different oxides, 67
laser surface sealing and strengthening of zirconia coatings, 57
plasma-sprayed composite coatings for high temperature applications, 62

Zirconium
a study of the picostructure of sputtered ZrN films, 188
high temperature erosion behavior of titanium nitride and zirconium nitride coatings, 31